

CLAIMS

1. A mask comprising a substrate, and a pattern having a transmission factor formed on the substrate by using a material, wherein an optical path length difference between light beams respectively passing the pattern and an area adjacent thereto is greater than $(m - \frac{1}{8})\lambda$ and less than $(m + \frac{1}{8})\lambda$, where λ is a wavelength of incident light, and m is an integer.

2. A mask comprising a substrate, and a pattern having a reflection factor formed on the substrate by using a material, wherein an optical path length difference between light beams respectively passing the pattern and an area adjacent thereto is greater than $(m - \frac{1}{8})\lambda$ and less than $(m + \frac{1}{8})\lambda$, where λ is a wavelength of incident light, and m is an integer.

3. A mask according to claim 1, wherein the wavelength λ is in the following range:

$$150 \text{ nm} < \lambda < 440 \text{ nm}.$$

4. A mask according to claim 2, wherein the wavelength λ is in the following range:

$$150 \text{ nm} < \lambda < 440 \text{ nm}.$$

5. An exposure method comprising a step of transferring, by using a mask according to claim 1, a

pattern image of the mask onto a photosensitive substrate.

6. An exposure method comprising a step of transferring, by using a mask according to claim 2, a pattern image of the mask onto a photosensitive substrate.

7. An exposure method comprising a projection exposure step of projecting, by using a mask according to claim 1, a pattern image of the mask onto a photosensitive substrate, and a two-light-flux interference exposure step of forming a pattern image by using interference of two light fluxes.

8. An exposure method comprising a projection exposure step of projecting, by using a mask according to claim 2, a pattern image of the mask onto a photosensitive substrate, and a two-light-flux interference exposure step of forming a pattern image by using interference of two light fluxes.

9. An exposure apparatus having an exposure mode for exposing the photosensitive substrate with a pattern of the mask by using an exposure method according to one of claims 5 to 8.

10. A method for manufacture of a device,

comprising a process of transferring a pattern of a reticle to a wafer by using an exposure method according to one of claims 5 to 8, and a process of developing the wafer.